1639

Atty. Docket No.: 8039/1122 **PATENT**

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Application of:	Tomlinson	Examiner:	Tran, My Chau
Serial No.:	09/888,313	Group Art Unit:	1639
Filed:	June 22, 2001	Conf. No.:	9556
Entitled:	Matrix Screening Method		

CERTIFICATE OF MAILING UNDER 37 C.F.R. § 1.8a

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TRANSMITTAL LETTER

Enclosed for filing the above-identified patent application, please find the following documents:

1. Response to Office Communication mailed September 24, 2003;
2. List of the Claims; and
3. Return Post Card.

The Commissioner for Patents is hereby authorized to charge any additional fees or credit any overpayment in the total fees to Deposit Account No. 16-0085, Reference 8039/1122. A duplicate of this transmittal letter is enclosed for this purpose.

Respectfully submitted,

Date: 10/21/03

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RESPONSE TO OFFICE COMMUNICATION

Sir:

This paper is being submitted in response to the Office Communication mailed on September 24, 2003. The communication indicated that Applicants' amendment filed September 8, 2003 was non-compliant because the Listing of the Claims did not list all the claims pending and/or previously pending in the application. Applicants submit herewith a new Listing of the Claims which lists all the claims in the application, and request its entry along with Applicants' response of September 8, 2003.

Respectfully submitted,

Date: 10/21/03

Name: Kathleen M. Williams
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Tel. (617) 239-0100

The following Listing of the Claims will replace all prior versions and all prior listings of the claims in the present application:

Listing of The Claims:

1-55 (Cancelled)

56. (Original) A method for screening a first repertoire of members comprising a heavy or light chain polypeptide against a second repertoire of members comprising a heavy or light chain polypeptide to identify those members of the first repertoire which interact with members of the second repertoire, comprising :

(a) arranging the first and second repertoires in at least two series of continuous lines to form an array, such that a plurality of members of the first repertoire are juxtaposed to a plurality of members of the second repertoire; and

(b) detecting an interaction between heavy or light chain polypeptides of the first and second repertoires, thereby identifying those members of the first repertoire that interact with members of the second repertoire.

57. (Original) The method of claim 56, wherein said first and second repertoires are each present in a series of continuous, non-intersecting lines.

58. (Original) The method of claim 56, wherein said heavy or light chain polypeptide is a domain antibody (dAb).

59. (Original) The method of claim 56, wherein said first repertoire comprises V_H or V_L.

60. (Original) The method of claim 56, wherein said second repertoire comprises V_H or V_L.

61. (Original) The method of claim 56, wherein said first repertoire comprises V_H, and said second repertoire comprises V_L.

62. (Original) The method of claim 56, wherein said step of detecting comprises contacting said at least one array with a target epitope, and detecting binding of the target epitope by juxtaposed members of said first and second repertoires on said array, wherein said binding of the target antigen is indicative of an interaction of members of said first and second repertoire.

63. (Original) The method of claim 56, wherein said step of detecting comprises contacting said at least one array with a third repertoire of target antigen members arranged in a series of continuous lines, and detecting binding of target antigen by juxtaposed members of said first and second repertoires at positions on said array, wherein said binding of target antigen is indicative of an interaction of members of said first and second repertoire.

64. (Original) The method of claim 63, wherein a plurality of lines of said third repertoire comprise a different target antigen.

65. (Original) The method of claim 56, wherein each line of said at least two series of lines is present in a channel provided in a solid material such that a plurality of channels containing a member of the first repertoire intersects a plurality of channels containing a member of the second repertoire.

66. (Original) The method of claim 56, wherein members of the first and second repertoires are applied to a single support.

67. (Original) The method of claim 56, comprising the steps of:

(a) arranging the first repertoire on a first support in a series of continuous lines and arranging the second repertoire on a second support in a series of continuous lines;

(b) juxtaposing the first and second supports such that a plurality of members of the first repertoire are juxtaposed with a plurality of members of the second repertoire to form said array; and

(c) detecting an interaction between members of the first and second repertoires.

68. (Original) The method of claim 67, wherein said first and second repertoire are each arranged in a series of continuous, non-intersecting lines.

69-77. (Withdrawn)

78. (Currently amended) The method of claim 56, 62, 63, ~~69, 75, or 76~~ whereby one or more of the first, second and, if present, third repertoires are provided by a plurality of nucleic acid sequences which encode said heavy or light chain polypeptide of said first and second repertoires or said target epitope of said third repertoire and which are expressed to produce their corresponding polypeptides *in situ* in the array.

79. (Original) The method according to claim 78, wherein the nucleic acid sequences are provided by expression vectors which encode polypeptide members of the repertoire, and are operatively linked to control sequences sufficient to direct the transcription of the nucleic acid molecules.

80. (Original) The method of claim 79, wherein the expression vector is a bacteriophage.

81. (Original) The method of claim 79, wherein the expression vector is a plasmid.

82. (Original) The method of claim 79, wherein the expression vector is a linear nucleic acid molecule.

83. (Original) The method of claim 79, wherein the nucleic acids are contained and expressed within cells.

84. (Original) The method according to claim 83, wherein the cells are selected from the group consisting of bacterial cells, lower eukaryotic cells and higher eukaryotic cells.

85. (Original) The method of claim 78, wherein the nucleic acid molecules are immobilized in the form of naked or complexed nucleic acid.

86. (Currently amended) The method of claim 56, 62, 63, ~~69, 75, or 76,~~ wherein the members of at least one repertoire are arrayed using robotic means.

87-117. (Withdrawn)